

AECOM 99 Commerce Drive Winnipeg, MB, Canada R3P 0Y7 www.aecom.com

204 477 5381 tel 204 284 2040 fax

February 21, 2013

Mr. Stephen West Hudson Bay Mining and Smelting Co., Limited PO Box 1500 #1 Company Road Flin Fion, Manitoba R8A

Dear Mr. West:

Project No: 60263703 (402.19.2)

Regarding: Supplementary Filing for the Reed Mine Environment Act Proposal Application

AECOM Canada Ltd. is pleased to submit our report on the above referenced project. If you have any questions regarding this report, please do not hesitate to contact Cliff Samoiloff of our office directly at (204)-928-7427.

Sincerely,

AECOM Cahada Ltd.

Ron Typliski, P.Eng.

Vice President, Manitoba District

Canada West Region

SS:dh

#### Statement of Qualifications and Limitations

The attached Report (the "Report") has been prepared by AECOM Canada Ltd. ("Consultant") for the benefit of the client ("Client") in accordance with the agreement between Consultant and Client, including the scope of work detailed therein (the "Agreement").

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#### 1. Introduction

Hudson Bay Mining and Smelting Co., Limited (HBMS) committed to conducting a second community open house in the Town of Snow Lake (see **Section 6.1.2** of the **Reed Mine Environment Act Proposal** ("EAP") to discuss the environmental assessment findings of the Reed Mine Project. This supplementary report summarizes the proceedings of the Open House conducted in the Town of Snow Lake on February 11, 2013.

#### 1.1 Open House 2 - Town of Snow Lake

The second community open house for the proposed Reed Mine was held on February 11, 2013, in the Town of Snow Lake, Manitoba. The purpose of the open house was to provide members of the community, interested stakeholders and members of the general public with an overview of the project, summarize the environmental assessment submitted to Conservation and Water Stewardship, and encourage any comments and feedback.

To inform the public of this open house event, an advertisement was placed in the January 31, 2013 edition of *The Underground Press*. Given the expression of interest from the Wilderness Committee following filing of the EAP, a letter (via email) was also sent to Mr. Eric Reder, responding to the Wilderness Committee's Press Release (dated February 1, 2013) about the Reed Project, and inviting Mr. Reder to attend the event. A copy of the advertisement and letter to the Wilderness Committee is included in **Appendix A**.

The open house event was held at the Snow Lake Community Centre in Snow Lake, and a total of five attendees, including local residents and current and former HBMS employees, participated in the event. Attendees were requested to sign-in upon arrival. The open house event consisted of a formal presentation with a question and answer period followed by informal discussions with attendees and representatives from AECOM and HBMS. Large storyboards with project information were displayed on easels around the room for attendees to examine in detail following the presentation. Photos from the event are provided in **Appendix B**.

Attendees were encouraged to fill out comment sheets, or send any queries to HBMS, AECOM, or Conservation and Water Stewardship (Jennifer Winsor's contact information was provided). A copy of the sign-in sheet, the PowerPoint presentation and a sample comment sheet is provided in **Appendix C**.

Although no questionnaires were completed or submitted by the open house attendees, a few questions and comments were offered at the conclusion of the presentation (all by one individual; Mr. Don Gowans). The following summarizes the questions/comments received and responses provided:

Question (by Mr. Don Gowans): Out of the 45 trucks, how many will be ore trucks?

**Response:** Approximately 30. Other vehicles include sewage, employee personal vehicles, and site deliveries.



Question (by Mr. Don Gowans): What size of trucks will be used?

Response: Most likely 40 tons. The size of the trucks will be similar to the trucks that were used to haui ore from the Trout Lake Mine to the Flin Flon Concentrator. However, the exact size of the trucks will not be known till after the ore haul contracts are in place.

Question (by Mr. Marc Jackson): What is the mining method being used?

Response: Longhole stoping will be used as the mining method for the Reed Mine. This is a safe method for bulk extraction and allows for backfill to be created.

Question (by Mr. Don Gowans): With 88 new employees, the traffic number seems low.

Response: The 88 employee number represents two shifts. At any time, there will be 44 employees on site. Secondly, HBMS encourages carpooling, so we anticipate that four employees will use one vehicle. HBMS will also be providing a shuttle bus for employees to minimize traffic. There will be one sewer truck daily, fuel delivery trucks will come to the site every third day, and propane will come to the site once a week. For site deliveries, the same trucks delivering materials to the Lalor site will also deliver materials to the Reed Mine.

**Note:** HBMS extended an invitation to open house attendees for a guided tour of the Reed Mine site to facilitate project understanding and address any outstanding concerns they may have. Of the attendees, Mr. Paul Hawman and Mr. Clair Pilgrim participated in a tour of the site on February 19, 2013.

**AECOM Signatures** 

**Report Prepared By:** 

Somia Sadia, B. Env.Sc. (Honours Coop), EP

Environmental Planner

Report Reviewed By:

Cliff Samoloff, B. Sc., ER(CEA)

Manager, Environment, Health & Safety

Consulting

Water and Natural Resources

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# **Appendix A**

#### Another winner for Arts Council



Douglas E. Hughes and Rod Beattle in Ed's Garage ~ photo by Claus Andersen

The Lawrie Marsh Hall was packed with folks who braved a cold evening on Saturday January 19th to take in some ABC sponsored Manitoba Theater Centre entertainment... they weren't disappointed. On the contrary, any play that sports the name Rod Beattie in the program, prettymuch guarantees belly laughs, folksy insight, and a couple of hours of top notch entertainment!

Many of us are accustomed to the performances of Beattie through his Wingsfield Farm series; several of which graced the stage at the hall over the past decade or so. His dry wit and rubber faced portrayal of the numerous characters in the Wingfield run, has kept many local theater goers coming back, while attracting new aficionados with each outing.

The play on this evening was in the same vein as the seven part Wingfield Series, only it was titled Ed's Garage. In fact, all eight productions were written by Dan Needles, directed by Douglas Beat-

tie, and feature the acting of Rod Beattie.

An overview in the play's literature explained, in a nutshell, the premise of the comedy, "Ed can fix just about anything — an old truck, a stubborn boat motor, even people's problems. Folks flock to Ed's Garage for oil changes and sage advice. Everything's running like a well-oiled machine until a psychotherapist from the city sets up shop next door, throwing a wrench into the whole business."

Over the approximately two hours of the production, the audience watched and laughed heartily as Ed figured out or fixed the problems of a cattle farmer turned hotelier, a therapist, his co-worker, the entire police force of the town... heck he even had time for an oil change and to coax life into a temperamental Evinrude outboard.

Kudos indeed go out to the Aurora Borealis Arts Council for bringing this fine production to Snow Lake... Keep 'em coming! MJ

## Jill Maxwell wins a grand in Curling Club draw



(L): Kim Gogal, Pam Stoupe, and \$1000 winner Ill Maxwell - photos by Marc Jackson

On the evening of Saturday, January 19th, a number of two person teams took to the pebble in the Snow Lake Curling Club's Annual Glow Curling Bonspiel. When the last rock had been thrown and the brooms, shoes and most of the glow sticks had been put away, participants gathered in the clubroom of the Gordon M. Rupp Curling Rink. There, cash prizes were handed out prior to the start of the club's annual Elimination Draw. The curling winners were: 1st with \$170 in prize

money – Ashton Leif and Victor Trudeau, 2nd with \$140 in prize money – Larissa McLaren and Sandra Gogal, and a hidden winner of \$20 for the twosome of Marc Beaulieu and Colleen Hogan

Once folks had finished handing out prize money for the curling, the elimination draw got underway. After a year's sabbatical, the Lynn Smith rink was back in the thick of things, Pam Stoupe, Kim Gogal, Kim Burton, and Mary Ann Otto capably

See DRAW on page 6 ...

....IFS from page 1
Chris Samborski, Tyler Samborski, and Jason Samborski, Tyler Samborski, and Jason Samborski, Tyler Samborski, and Jason Samborski, Tyler pay our own way. We raise money, and we have a target for ourselves. This year we've exceeded it, so thanks go out to everyone there. One of our riders, Corey Lobert, who works at Manitoba Hydro, pooled donations that we received and took them into Hydro, and they matched them. So we sent in \$3200 and he came back with a cheque for \$6400. Earlier today, our total raised locally for the Journey for Sight was \$14,300." However, the final total was \$15,300.

Once Samborski had finished, Past Chairperson of the Journey for Sight, Dean Lounsbury, rose to say a few words. Lounsbury noted that the Lions always find a close to the heart cause to ride for in the Journey for Sight. "Last year, the Mullen family out of Bowsman lost their 15 year old son in a quad accident, so we dedicated that ride, not only to the Lions Eye Bank, but to Nicolas Mullen," he said. "This year we have another cause as well, we are going to ride in memory of Richard Sammon, who was a dedicated rider who unfortunately passed on."

Subsequent to a little socializing and an early bedtime for riders, a 50/50 draw was held and Snow Lake's Laury Miller was the winner of \$855. The following morning the riders left Snow Lake, picking up additional riders along the way and headed for Brandon. Rider Tyler Samborski and Glen Bartley, who was one of Snow Lake's support crew, both stated that from all accounts the 600 mile ride was a huge success! MJ

# **H**DBAY

#### **PUBLIC NOTICE**

#### Open House for the Reed Copper Project

Hudbay will be hosting an Open House to discuss the Reed Copper Project.

Location – Snow Lake Community Hall February 11, 2013 From 7 p.m. to 9 p.m.

The Open House is part of the public engagement process for the environmental assessment of the Reed Copper Project, a proposed 1,300 tonne per day copper mine located between the City of Film Flom and the Town of Snow Lake. Representatives from Hudbay and AECOM Canada Ltd. will be on hand to present the project, receive comments, and answer questions regarding the project

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#### MICHELE GUIDUCCI March 25, 1928 – January 15, 2013



It is with heavy hearts that we announce the passing of Michele Guiducci on January 15, 2013, at the age of 84. Mike was predeceased by his parents, Cesear and

Adelina; Brothers, Luigi, Giuseppe and Ezio. He leaves to mourn his sisters Cesarina and Dina; Daughters, Brenda (Mike), Sandra (Kurt), and Michelle (Ryan); grandchildren, Micheal, Stephanie and Dustin; great-grandchildren, McKenna and Amarissa and numerous nieces and nephews.

Mike was born March 25, 1928 in Corinaldo, Italy. In the 1960s Mike moved to Canada where he was employed

with the Hudson Bay Mining and Smelting Company and retired in 1989. He then moved to beautiful Penticton, B.C. where he spent most of his time enjoying the outdoors, playing bocce ball, biking, long walks on the Skaha beach, fishing and loved playing bingo. In March 2005 Mike moved to Winnipeg, MB to be closer to his three daughters and grandchildren. He lived life to the fullest, had a heart of gold and had an infectious personality. Mike completed his life the same way he lived it with grace, courage and dignity. He will be sadly missed.

The family would like to extend a special thank you to all the staff and management at Beacon Hill Lodge for their care and compassion shown to Mike during his stay.

Dad, we cherish our memories together and you will always be in our hearts.

A funeral service will be held in Ostra Vetere, Italy.

THOMSON "IN THE PARK" 925-1120





February 4, 2013

Via E-mail eric@wildernesscommittee.org

Wilderness Committee 3rd Floor, 303 Portage Ave Winnipeg, MB R3B 2B4

Attention: Mr. Eric Reder

Dear Mr. Reder:

RE: Reed Project & Environmental Application

I had the opportunity to review the Press Release of the Wildemess Committee issued February 1, 2013. I write to invite you and any members of your group who would be interested to meet with us to discuss your concerns about the Reed Project. The concerns you have identified in your Press Release are addressed in our environmental impact assessment material, which is available through Manitoba Conservation. Since you have expressed an interest, I enclose for your convenience a copy of the application material that is on file with Manitoba Conservation. I would be pleased to review with you the environmental impact assessment of this project and explain the environmental management practices that are in place. I am in Winnipeg from time to time and could arrange a time to get together at our mutual convenience. I also would be glad to invite the AECOM experts who carried out the environmental studies relating to the Reed Project to attend our meeting.

I believe a discussion of this nature would be of great assistance in allaying your concems. For example, since 2007, Hudbay has participated in funding caribou studies in the region which have produced reliable information about herd location, calving grounds and migration patterns. All Hudbay activities are planned with this information in mind, to make sure that caribou are not impacted. We are confident that the activities related to the Reed Project do not adversely affect caribou.

You also are quoted in the Free Press article dated February 2, 2013 as indicating that caribou require 50 year old forest. You will be interested to know that the footprint of the existing Reed Advanced Exploration Project (AEP) lies within an area that had been logged out some 25 years ago. Very little additional clearing was required. Any re-growth that had to be removed was cut up and donated to Parks management for use in nearby campgrounds used by members of the public who enjoy the Park. Given the vegetative buffer around the site and its relative distance from campgrounds and lodges, the operation of the mine is unlikely to disturb other Park users.

Finally, the Reed Mine will have a relatively short life - less than a decade of operation is anticipated. We have filed a closure plan (backed by financial assurance), which includes re-vegetation of the site. Please also note that Section 2.7.2 of Environment Act Proposal material (page 17) deals with end use of the site. Hudbay has offered to work with Parks officials to explore opportunities for alternative final uses of the Reed site that could enhance recreational use of the Grass River Provincial Park.

I believe as well that a site visit would be of great benefit to inform our discussion. I would be pleased to take you and a small group of your members on a guided tour of the site.

I also can advise that we have held public information meetings in Flin Flon and Snow Lake, and I have planned another public information meeting for Monday, February 11<sup>th</sup> in Snow Lake. We would be pleased to see you at any of our public meetings.

I look forward to hearing from you.

Sincerely,

Stephen West, P.Eng.

**Environmental Superintendent** 

Weelest P. Eng.

CC:

**Tracey Braun** 

Director, Environmental Assessment & Licensing Branch Manitoba Conservation and Water Stewardship 123 Main St., Suite 160

Winnipeg, MB R3C 1A5

John N. Fox, P.Eng.
Assistant Deputy Minister
Mineral Resources Division
Manitoba Innovation, Energy and Mines
360-1395 Ellice Avenue
Winnipeg MB R3G 3P2

Wayde Roberts Regional Director Manitoba Conservation and Water Stewardship Box 2550 The Pas, MB R9A 1M4

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# **Appendix B**



Photo 1: Storyboards outlining key information were displayed across the room



Photo 2: Open house layout



Photo 3: Jay Cooper (HBMS) giving a presentation on the proposed Reed Mine



Photo 4: Attendees engaging in informal discussions following the presentation.

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# **Appendix C**

# **Reed Copper Project**

Community Open House February 11, 2013







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## Who's Who

### **Hudbay Minerals**

Stephen West – Environmental Superintendent Jay Cooper – Assistant Superintendent

#### **AECOM**

Clifton Samoiloff – Environmental Lead Somia Sadiq – Lead Assessor



# Forward Looking Information

- This presentation contains "forward-looking statements" and "forward-looking information" (collectively, "forward-looking information") within the meeting of applicable Canadan and United States securities legislation, including, but not brothed to, Huddary share with respect to the development of its Lalor and Reed projects. All information contained in this presentation, other than statements of current and historical fact, is forward-looking information of this, but not always, forward-looking information can be identified by the use of words such as "plans", "expects", "budges", "pudgenore", "schedules", "articipations", "intender,", objective", "goal", "understands", "embrigates" and "budges" [and variations of these or similar words] and statements that certain actions, words or results "may," could", "would", "should", "might" "boccur" or "well be taken" (and variations of these or similar expressions). All of the forward-looking information in this presentation is qualified by this cautionary statement.
- Forward-looking information is not, and cannot be, a garantize of future results or events. Forward-looking information is based on, among other things, opinion assumptions, estimates and analyses that, while considered resonable by Hudbay at the date the forward-looking information is provided, inherently are subject assumptions, estimates and analyses that, while considered resonable by Hudbay at the date the forward-looking information. The subject is an advantaged on the forward-looking information.

- but are not lumbed to:
  the accuracy of goological, mining and metallurgical estimates;
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  the costs of development;
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- Should one or more risk, uncertainty, contingancy or other factor materialize or should any factor or assumption prove incorrect, actual results could visay material from those expressed or impited in the forward-bobing information. Accordingly, you should not place undue relinace on forward-looking information. Houtbay not assume any obligation to update or revise any forward-looking information after the date of this presentation or to explain any material difference between subsequent actual events and any forward-looking information, except as required by applicable law.

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# **Purpose**

- Present concept for planned Reed Mine and information about the **Environmental Assessment**
- Undertake public consultation which is an important step in the Environmental Assessment process
- Gain insight into public concerns as a result of your comments



**Reed Copper AEP** 

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## Brief History of Hudbay in Flin Flon Area

- Flin Flon mining camp started in 1915
- Hudbay has been operating in the Flin Flon area since the 1920's



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#### Brief History of Hudbay in the Snow Lake Area

- Hudbay has operated mines in the Chisel Basin since the late 1950's
- Chisel Lake Mine, opened in 1958, was the first HBMS mine in the region
- Stall Lake Concentrator and Anderson Tailings Impoundment Area (TIA) opened in 1979. Several mines were in operation in the region at this time



Town of Snow Lake (Circa 1950's)

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- Between 1998 and 2000, a decline ramp was driven from the bottom of the Photo Lake Mine to the current Chisel North Mine
- Chisel North ceased ore extraction in Fall 2012.
   Infrastructure will continue in operation to support the Lalor Projects



Chisei North Mine

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### **Project Overview**

- 2.16 million tonnes of copper ore
- At full production mining rate is anticipated to be 1,300 tonnes/day
- All ore will be trucked and processed in Flin Flon
- 95% of the mine revenue will come from copper
- Approximate 5 year mine life
- \$71.9 million CAPEX (2012-2013)
- Will provide 88 jobs at full production

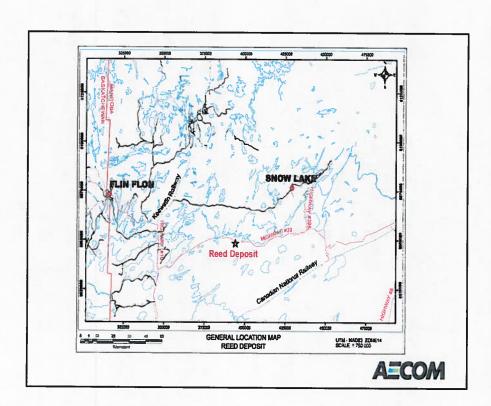
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#### Setting of the Reed Property

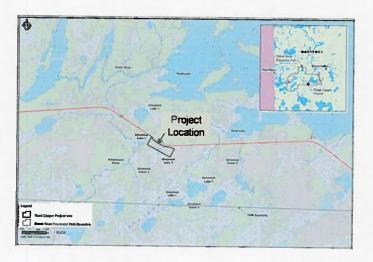
- The site is approximately 80 km southwest of the Town of Snow Lake,
   Manitoba and 120 km southeast of Flin Flon, Manitoba.
- The site lies approximately 150 m south of PTH #39 and has been made accessible via an existing 1.4 km access road, previously developed as a logging road.
- Site located on the southern edge of the Grass River Provincial Park.
- Grass River Provincial Park
  - Classified as a "natural park" that will accommodate commercial resources, including mining, where such activities do not compromise other park purposes.
  - The Reed Property is categorized for "resource management" under the Provincial Parks
    Designation Regulation (Manitoba Regulation 37/97)).







## **Project Location**





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## Reed Property Exploration History

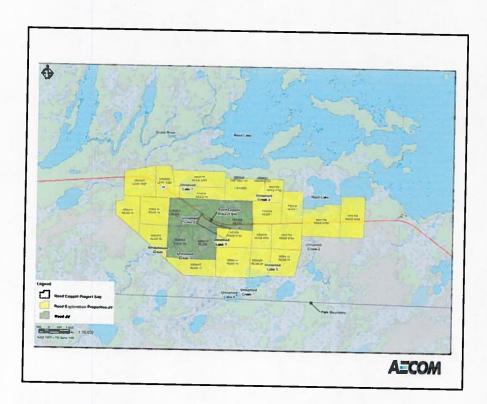
- Based on targets identified in the 1970s, the area in and around the Reed deposit has been under exploration in some form since 1974.
- Airborne and ground geophysical surveys began in 2007.
- VMS Ventures Inc. intersected a 33.5 m interval copper rich mineralization in October 2007.
- On July 5, 2010, HBMS concluded a joint venture agreement with VMS for exploration and development of the Reed deposit.



# Reed Property Rights

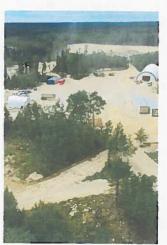
- Lies within Mineral Leases 335 and 336, granted April 11, 2012, converted from four contiguous claims, covering an area of 841 ha.
- Surface rights have been granted by Lease Number 66082, issued December 31, 2011.





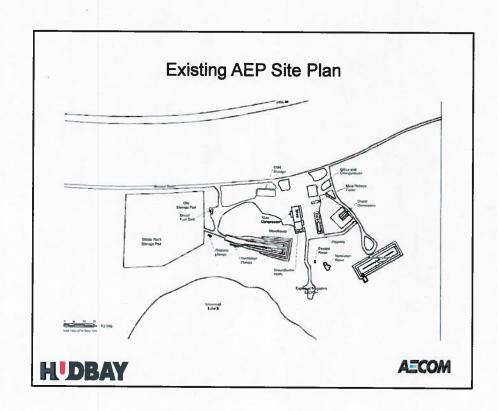
# **Existing AEP Site**

- The AEP Closure Plan was accepted by the Mines Branch on October 31, 2011, and development is currently ongoing.
- The AEP was planned to encompass a site of approximately 14 hectares, but only 7 hectares have been cleared to support AEP activities.



AEP Site - Looking West





Reed Property and Existing Access Road (Left) and HWY #39 (Right)
Looking West in 2011







# **Existing AEP Site**

- Structures currently completed or under development include:
  - Access road upgraded and gate installed
  - Site office and change house constructed
  - Polishing pond constructed
  - Waste pad constructed
  - Portal and decline to provide access to ore body
    - Decline is currently developed to 45 m elevation.
  - Maintenance shop / warehouse

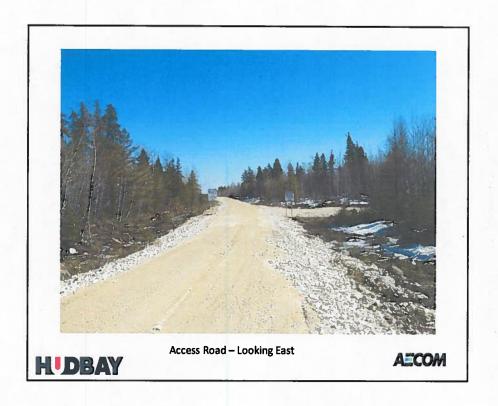


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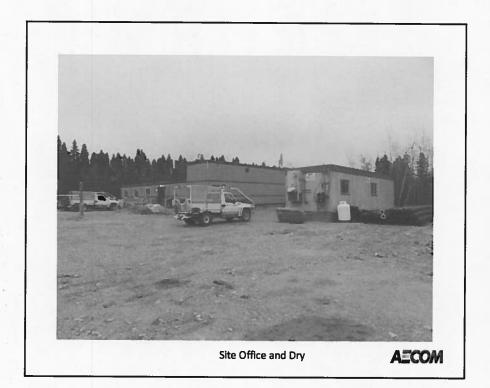


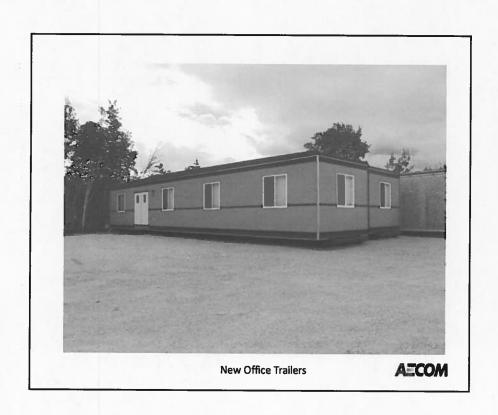
Reed AEP Site, Looking East (2012)

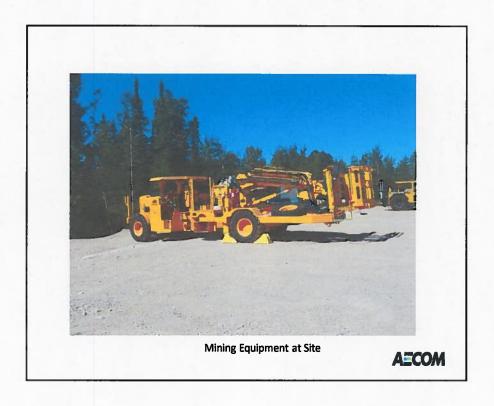
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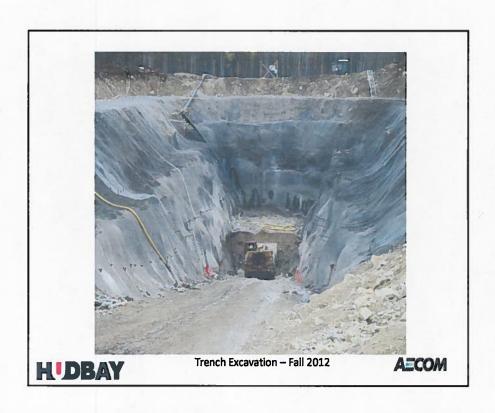


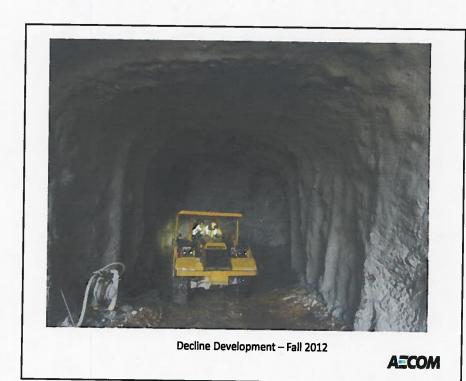


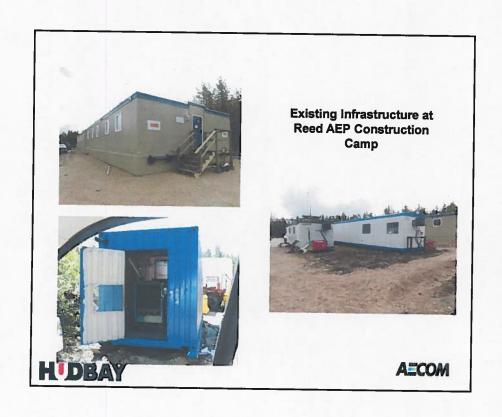












#### Special Considerations During Site Development

- Kept tree clearing to a minimum by using existing roads and clearings
- Maintained tree buffer with the highway and around site
- Used local limestone for fill
- Designed surface facilities to fit a small area
- · No crushing on site to minimize noise and dust
- No overhead power line on site
- · Special signpost and limestone barricades

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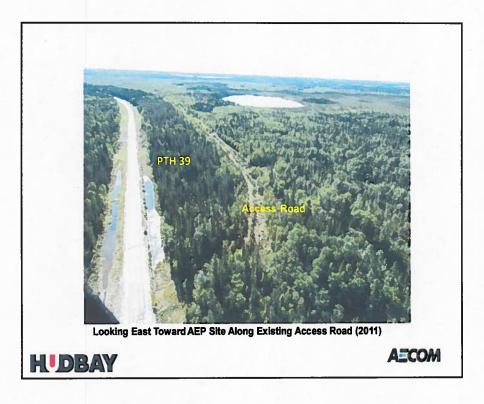
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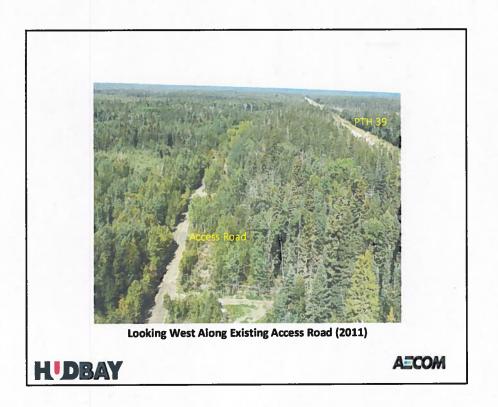
### **Existing Logging Access Road**

- The existing 1.4 km access road, formerly developed as a logging road, has been upgraded and slightly widened in some areas to enable handling of the trucking and hauling needs of the AEP and potential mining.
- The connection to PTH#39 has been restored.
- The straightening avoided stream crossings and lake shores, and is the shortest route that disturbs the least amount of environment.
- Crushed limestone was used for the upgrades

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#### Freshwater Supply

- There is no use of surface water at the site.
- Water for domestic use (except drinking water) is derived from groundwater wells developed at the site (License 2012-025).
- Bottled water from a local supplier is provided as the drinking water source.



**Groundwater Wells** 

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#### Water Management

- Process water is pumped from a groundwater well located on the site to supply office, dry, shop, and underground operations.
- Discharge process water is retained in an on-site polishing pond.
- Sewage is collected in sewage holding tanks and trucked to a licensed facility off site.





**Polishing Pond** 

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## **Groundwater Management**

- High pressure grouting practice will minimize groundwater seepage during underground activities.
- Groundwater encountered during underground operations will be discharged to the polishing pond.
- Water from the polishing pond may be used as a water supply source for fire suppression.



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#### **Electrical Power**

- Provided by diesel generators on site.
- Fuel for generators is stored in SCAT tanks located at the site.
- Generators are enclosed and equipped with engineered controls to minimize noise to the maximum extent possible.





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### Domestic Waste and Hazardous Materials Management

- Garbage collection bins have been established on site. Will be sent for recycling and/or disposal at local approved facilities.
- Hazardous materials, waste oil, lubricants and other petroleum products are appropriately stored onsite until disposed of or recycled by a petroleum supplier.

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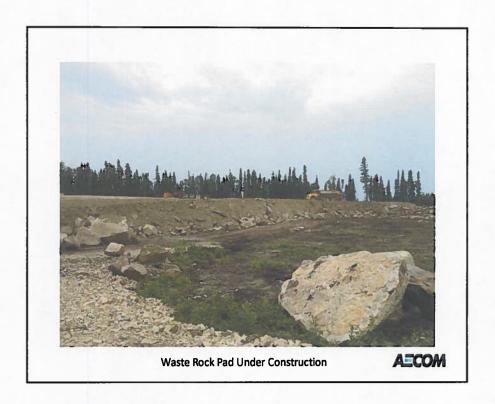
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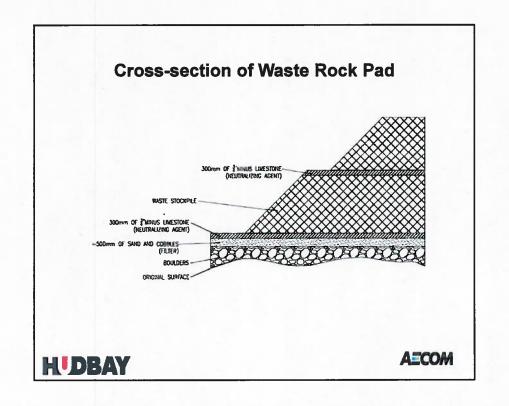
## Waste Rock Management

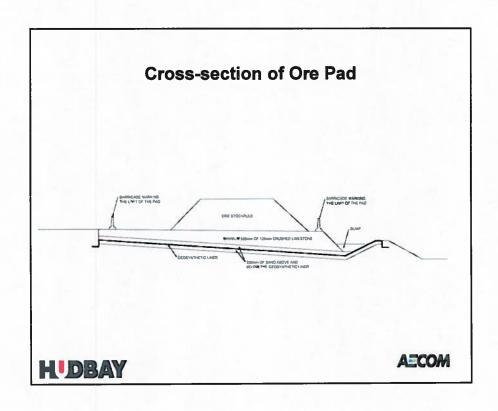
- All waste rock is transported to 20,000 m<sup>2</sup> waste rock storage pad for stockpiling.
- An ore storage pad capable of holding 5,000 tonnes will also be developed on-site.
- Storage pads will be lined where required.
- Waste rock (NAG and PAG) will be placed back underground as backfill.

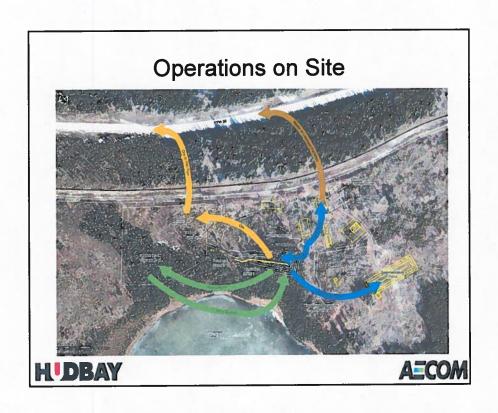
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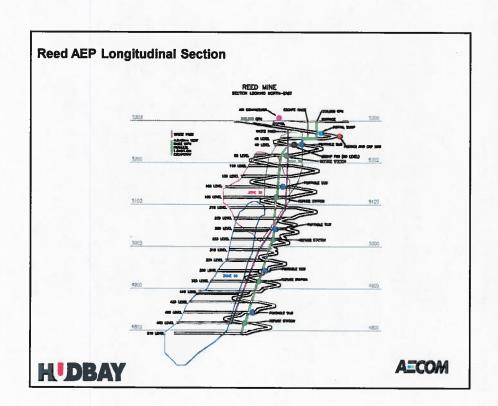




#### **Underground Development**

- 2,000 m long ramp (5.5 m x 4.5 m) at a -15% grade.
- Bulk samples will be extracted from three zones on two levels:
  - Zone 30 on 135 level
  - Zone 10 and 20 on 260 level
- Level accesses, 5.5 m X 4.5 m in size, will be driven at +3% to allow for drainage.
- Early production will commence in Zone 30, and subsequently Zone 20.





#### Reed AEP Proposed Infrastructure

- Diesel Generators and Fuel Storage Tanks
- Polishing Pond
- Two Sewage Holding Tanks
- Freshwater Tanks
- Office/"Dry Complex"
- Maintenance Facility
- Core Storage
- **Electrical Office**
- Compressor Building
- Parking Lot

- · Vent Raise to Surface
- Explosive Magazine with new **Access Road**
- Storage Sea Cans
- Laydown Area
- Waste Pad
- Ore Pad
- Campsite (30 person)



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#### Reed AEP Built Infrastructure

- Diesel Generators and Fuel
   Parking Lot **Storage Tanks**
- Polishing Pond
- Three Sewage HoldingTanks
- Freshwater Tanks (None)
- Building Complex, including:
  - Maintenance Facility
  - Core Storage
  - Electrical Office
  - Pumphouse
- Compressor Building

- Vent Raise to Surface
- Explosive Magazine (No New Access Road)
- Storage Sea Cans
- Laydown Area
- Waste Pad
- Ore Pad
- Campsite (increase from 30 to 42 person camp)



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# Additional Development Needed for Reed Mine

- Underground Backfill Raise
- Deeper underground ramp and level development
- Campsite (increases from 42 to 50 person camp)

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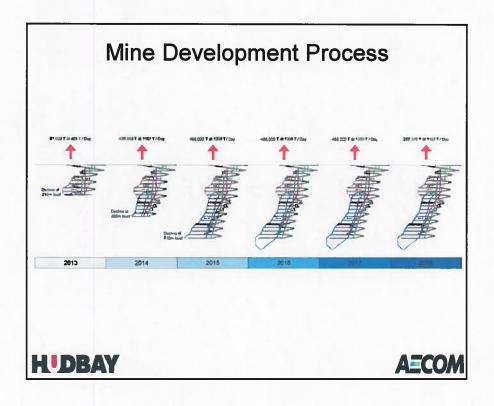
## **Reed Mine Management Practices**

Current environmental management practices at Reed AEP will continue through the Reed Mine development, for example:

- Freshwater for operations will continue to come from groundwater sources.
- Sewage will continue to be collected in sewage holding tanks on site and disposed of at a licensed facility.
- All waste rock will continue to be transported to 20,000 m<sup>2</sup> waste rock storage pad for stockpiling and eventually returned underground as backfill.
- All garbage will continue to be sent for recycling and/or disposal at local approved facilities.
- Hazardous materials, waste oil, lubricants and other petroleum products will
  continue to be appropriately stored on-site until disposed of or recycled by a
  petroleum supplier.

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# Reed Mine Conceptual Ventilation Circuit During the production phase, underground mining operations will require 165 m³/s (350,000 cfm) of fresh air Ventilation fans (45 kW, 60 hp) will be installed on every active level to ventilate the working areas. During winter, the air entering the ventilation raise will be heated with a 30 million BTU/hr propane heater.

### **Environmental Setting**

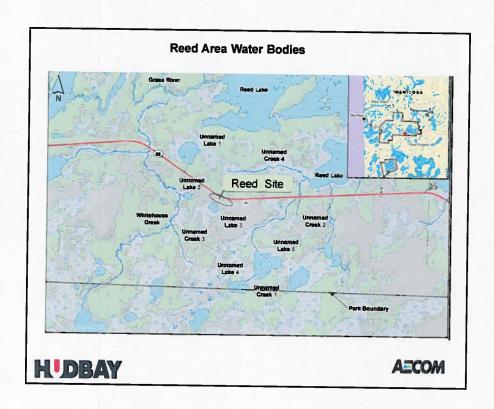
- Three distinct floral communities:
  - Clear-Cut Area (re-growth, immature trees)
  - Mature Mixed Forest (high diversity and productivity)
  - Wet Fen (sphagnum mats, pitcher plants, low wildlife value)
- Several bird and mammal species (including Woodland Caribou) in the project region (within 10 km of Reed site).
- Water bodies in the region include Whitehouse Creek, Grass River and Reed Lake and several unnamed lakes and creeks.













- AECOM completed an environmental baseline assessment at site in 2010 and 2011.
- No significant adverse environmental or socio-economic impacts are expected from the construction and operation of the Reed Mine.
- It is anticipated that the site will have returned substantially to its native conditions within 5 to 10 years after closure of the Reed Mine.



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### **Environmental Assessment Process**

- Define project components (including support infrastructure and facilities)
- · Define existing environment
- Identify potential environmental inputs/outputs required for project
- Evaluate interactions between the project and existing environment
- Develop management and mitigation measures to reduce or eliminate potential environmental effects
- Determine residual impact remaining after mitigation



### **Environmental Components Examined**

### **Physical**

- Topography
- Geology
- Soil
- Air
- Noise and Vibration
- Climate
- Groundwater



### **Aquatic**

- · Surface Water Hydrology
- Bathymetry
- Surface Water Quality
- Sediment Quality
- · Aquatic Invertebrates
- · Fish and Fish Habitat





### **Terrestrial**

· Flora and Fauna





### Socio-Economic

- Heritage Resources
- Economy
- Recreation
- · Resource Use
- Aesthetics
- Accidents and Malfunction





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### **Scope of the Assessment**

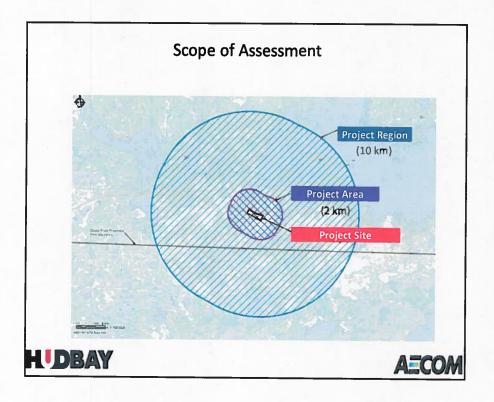
### **Temporal Boundaries**

- **Pre-Production Phase** Upgrades to existing AEP infrastructure in 2012 to enable ore extraction.
- Production Phase production mining from 2013 to 2018.
- Closure Phase anticipated to occur from 2018 into the future.

### **Geographic Boundaries**

- · Project Site Includes the Reed Mine site
- Project Area includes any area, up to 2,000 m beyond the Project Site
- Project Region includes an area up to 10 km beyond the Project Site that may be affected by project activities.





### Soil and Geology

- Since the site has been previously cleared as part of the AEP, no additional impact to soils and geology is expected during pre-production.
- During production, any impacts due to ARD will be mitigated by lining storage pads.
- The closure phase will involve the reapplication of appropriate soils to the site, to return the site to native conditions to the extent practical.
- Remediation of contaminated soil will be conducted, if required.



### **Vegetation and Wildlife**

- Habitat within the Project Site is not considered unique to the area, as such no critical wildlife habitat is expected to be disturbed.
- Habitat disturbance limited to the project site and kept to a minimum.
- Mitigation measures will be implemented to minimize impacts to vegetation and wildlife (eg. participation in regional caribou-related initiatives).





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### **Environmental Effects Assessment**

### **Vegetation and Wildlife**

- As part of the closure phase, the site will be re-vegetated with appropriate vegetation species.
- At closure, the access road will be scarified to prevent access to the site and promote growth of natural vegetation in the area.
- There will be negligible impact on vegetation and wildlife habitat.



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### **Aquatic Resources**

- No impacts on aquatic resources from pre production activities.
- Overflow from polishing pond will be discharged through an adjacent marsh, which flows into Unnamed Lake 3.
- Unnamed Lake 3 is a shallow waterbody, with limited connectivity and an average depth of 1.1 m. It contains no largebodied fish, and has no recreation or commercial fishing value.



Looking Down on Unnamed Lake 3

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### **Environmental Effects Assessment**

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Small Pike from Unnamed Lake 2

### **Aquatic Resources**

- Re-vegetation during closure will reduce the amount of surface runoff to surrounding waterbodies
- Negligible impacts to aquatic resources and no impacts to fish are expected in the surrounding waterbodies.



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### Groundwater

- Storage of explosives will include spill containment measures.
- Charges will be designed to be as small as possible to minimize blast residues.
- Emulsion type explosives will be used in wet areas to minimize the potential for ammonium nitrate to dissolve in groundwater.
- Potential effects from ARD during surface storage will be mitigated by lining waste pads with limestone and a sand filter, and ore pad with a geosynthetic liner and limestone.

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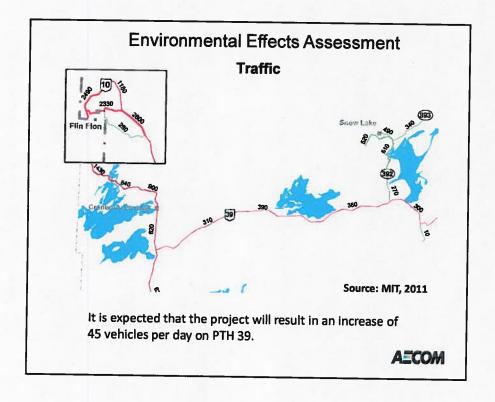
### **Environmental Effects Assessment**

### **Air Quality and Noise**

- Mature tree buffer maintained with the highway and around site.
- No crushing on site will minimize noise and dust.
- Ventilation fan will be installed underground, resulting in reduced noise.
- Speed limit of 40 km/hr on access road and 20 km/hr on site will minimize dust generation
- Due to the isolated nature of site and surrounding vegetation, negligible noise effects to wildlife and human receptors expected.
- Engineered controls will be installed at potential noise-producing structures, and operational controls will be implemented as a mitigation measure if required.

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### **Heritage Resources**

- Reed Property lies within the Grass River Provincial Park.
- No heritage resources located at the Reed site.
- Nearest known heritage resources are pictographs at Tramping Lake, located 30 km east of the Reed site.
- No impact to heritage resources is anticipated.



Pictographs at Tramping Lake



### Recreational Use

- No cottages, lodges or campgrounds located within area of the Reed site.
- No water bodies of recreation or commercial value located within the Project Area.
- Hunting is not permitted within 300 m of roadways located in Provincial Parks (Manitoba Conservation). This buffer zone would include the Reed Mine site and access road.



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### **Environmental Effects Assessment**

### **Economic Benefits**

- A number of employment opportunities are associated with the pre-production, production and closure phases of the Reed Mine.
- Local contractors, supply services and other businesses in Snow Lake, Flin Flon and Cranberry Portage would also benefit from the Reed Mine and associated activities.



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### Environmental Effects Assessment Community Support

- Closure of the Trout Lake Mine in Flin Flon has resulted in the displacement of 145 employees.
- Development of the Reed Mine will provide employment for approximately 88 people.
- Without ore from the Reed Mine, the Flin Flon Metallurgical Complex will be short of the feed required to operate at full capacity.
- As a result, development of the Reed Mine has received positive support from residents in and around Snow Lake and Flin Flon.
- · Discussions with First Nations are ongoing.



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### Closure Planning

Hudbay has successfully completed reclamation on many mining operations across
 Canada, with several of these sites located in the Flin Flon and Snow Lake region

 The area will be returned, to the extent possible, to its natural state following the procedures outlined in Manitoba Mine Closure Regulation 67/99





Konuto Lake Mine (Post Closure)



70

### Conclusion

- Development of the Reed Mine would be a significant economic benefit to Northern Manitoba.
- Project will have minor, mitigable and reversible impacts to the surrounding environment, including vegetation, wildlife and aquatic resources.
- Continued operation of the Flin Flon Metallurgical Complex provides additional socio-economic benefit to the City of Flin Flon, Town of Snow Lake and the Province of Manitoba.







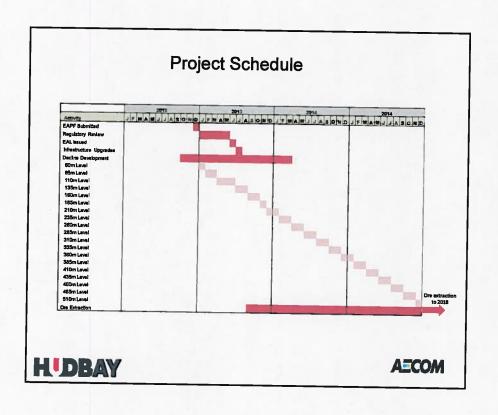
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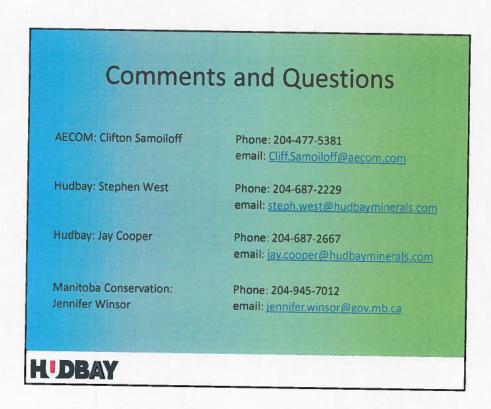
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### Project Schedule - Reed Mine

- EAP was submitted in December 2012. Public comment period is open until February 19, 2013.
- EAP approval required by Spring 2013 to accommodate early production from shallow ore zone
- Mine development to deeper zones to commence in or after Summer 2013 following extraction of the 10,000 tonne bulk sample
- Production of 1,300 tonnes/day is expected to occur in 2014
- Mine closure in 2018 (based on current known reserves)







## Reed Copper Project

### Community Open House February 11, 2013

	Sign-In	Sign-In Sheet
Name	Organization	Contact Information (Optional)
Clair Planin	SLREG	
Clarence Fisher	Town of Snow Lake	
Parc Agringer	SNOW CALLE	
)		
Je Lewan		
CIFT Samoneloft	AECOM	
Gmin Sadis	AECOM	
Jan Cooper	Hadbarl	
S. West	Hudbar	
S. Polecato	the of be	
B. Christagnson	Hadbar	
	,	





### **REED COPPER PROJECT**

Community Open House February 11, 2013

### **COMMENT SHEET**

Contact Information (Optional):	
Name:	Phone Number:
Address:	
e-mail	
Location: (Relative to the Prop	osed Project):
Do you have any concerns abo	ut the proposed Reed Copper Project?
☐ Yes ☐ No	
If so, what are your concerns?	
	r any activity that you feel could be affected by the project?
☐ Yes ☐ No	
If yes, would you please descri	be your activity and where you carry it out?





Would you like someone from Hudbay or AECOM Canada Ltd. to contact you to further discuss potential impacts to your activity?		
☐ Yes ☐ No		
☐ res ☐ No  If so, please provide contact information, if different from above:		
Did you find this Open House useful?		
☐ Yes ☐ No		
Please indicate how the Open House could have been more helpful to you, and let us know if then		
is a better method of informing you.		
If you have any additional comments or feedback, please use the space below		

- Thank you for your comments -



